Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER–VII • EXAMINATION – WINTER 2013

Subject Code: 372304 **Date: 05-12-2013**

Subject Name: Blow and Thermoforming Mould Design

Time: 02:30 pm - 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **English version is considered to be Authentic.**

Q.1		Design and draw plan and sectional elevation of extrusion blow mould assembly for a hollow container plastic product. Draw product drawing also. Assume suitable dimensions of product.	**14**
Q.2			
	(a)	Explain about venting of thermoform mould.	**07**
	(b)	Explain in brief about pinch-off section of blow mould design.	**07**
		OR	
	(b)	Write short note on 'Surface treatment in thermoform mould'.	**07**
Q.3			
	(a)	Discuss various properties required for blow mould material.	**07**
	(b)	Explain any one type of extruder die head used for parison forming.	**07**
		OR	
Q.3	(a)	Explain significance of blow mould cooling with neat sketch of any one type of cooling used in blow mould design.	**07**
	(b)	Discuss design considerations for selection of parting line in blow mould design.	**07**
Q.4			
	(a)	Explain about various provisions made for venting in blow mould design. Draw neat sketch of any one.	**07**
	(b)	Write short note on 'parison stick design'.	**07**
		OR	
Q. 4	(a)	Explain preform mould construction for injection blow mould.	**07**
	(b)	List various ancillary elements for blow mould and explain any one.	**07**
Q.5			
		Assuming suitable dimensions of any plastic disposable product, determine no. of impressions which can be accomodated in a female thermoform mould. Also draw plan and sectional elevation of this mould. Data : size of drape table= 500 × 500 mm^2, height of drape table= 75 mm, sheet thickness= 1 mm	**14**
		OR	
Q.5	(a)	Explain about various properties required in a mould material to be suitable for thermoforming mould design.	**07**
	(b)	Explain about shrinkage in thermoforming and its effect on draft/ taper in thermoform mould design.	**07**

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